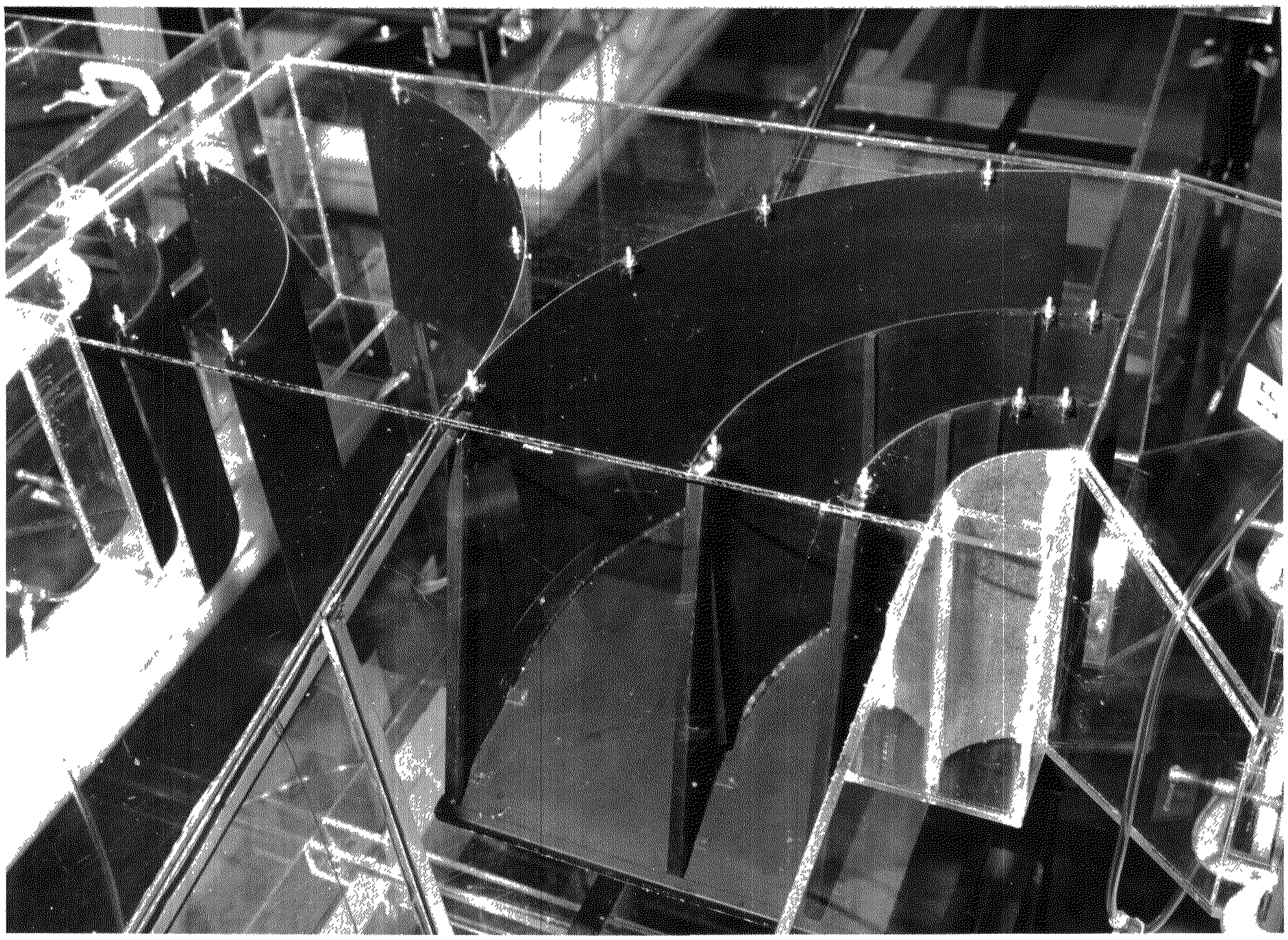
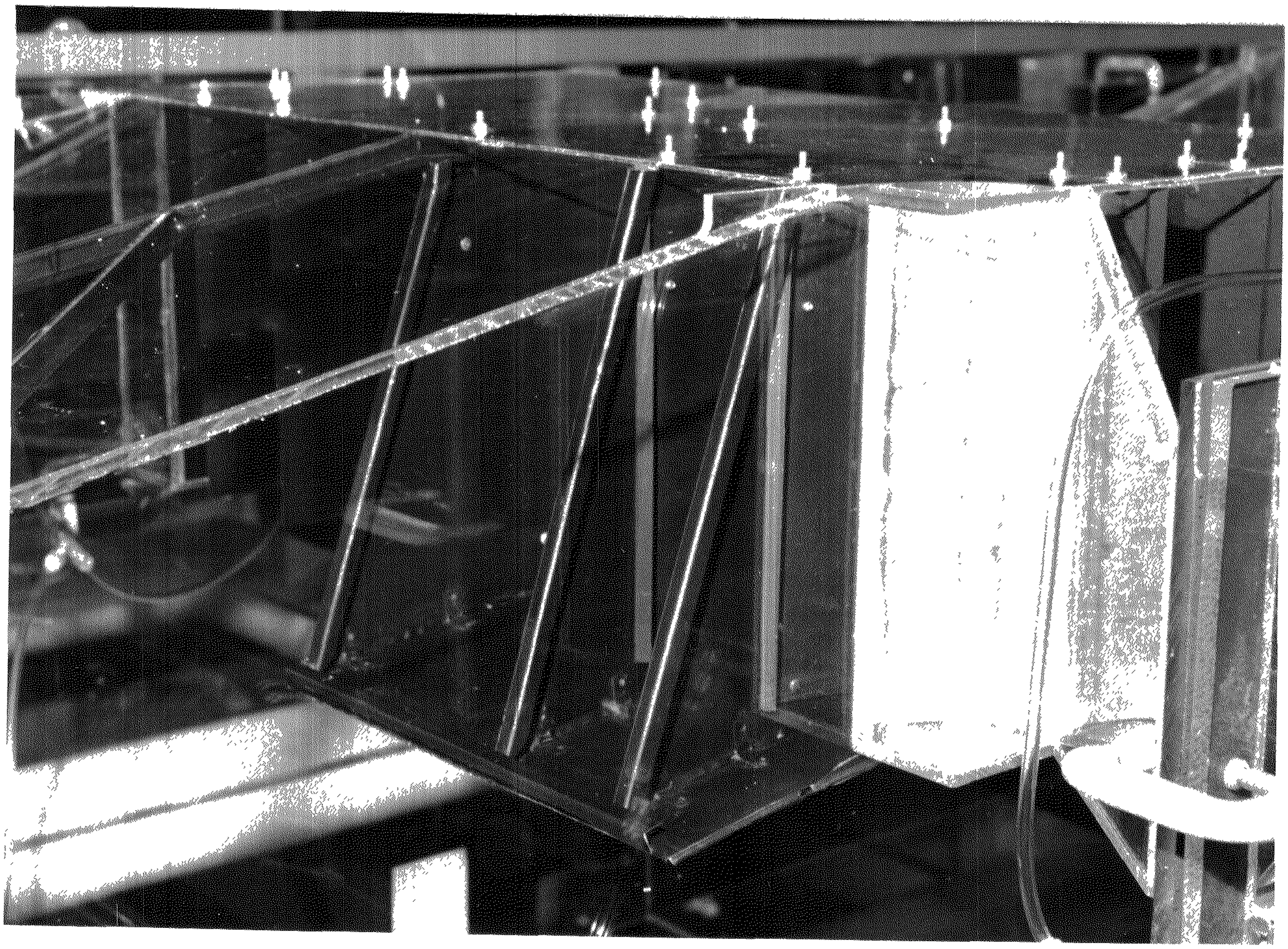


PHOTOGRAPH #1

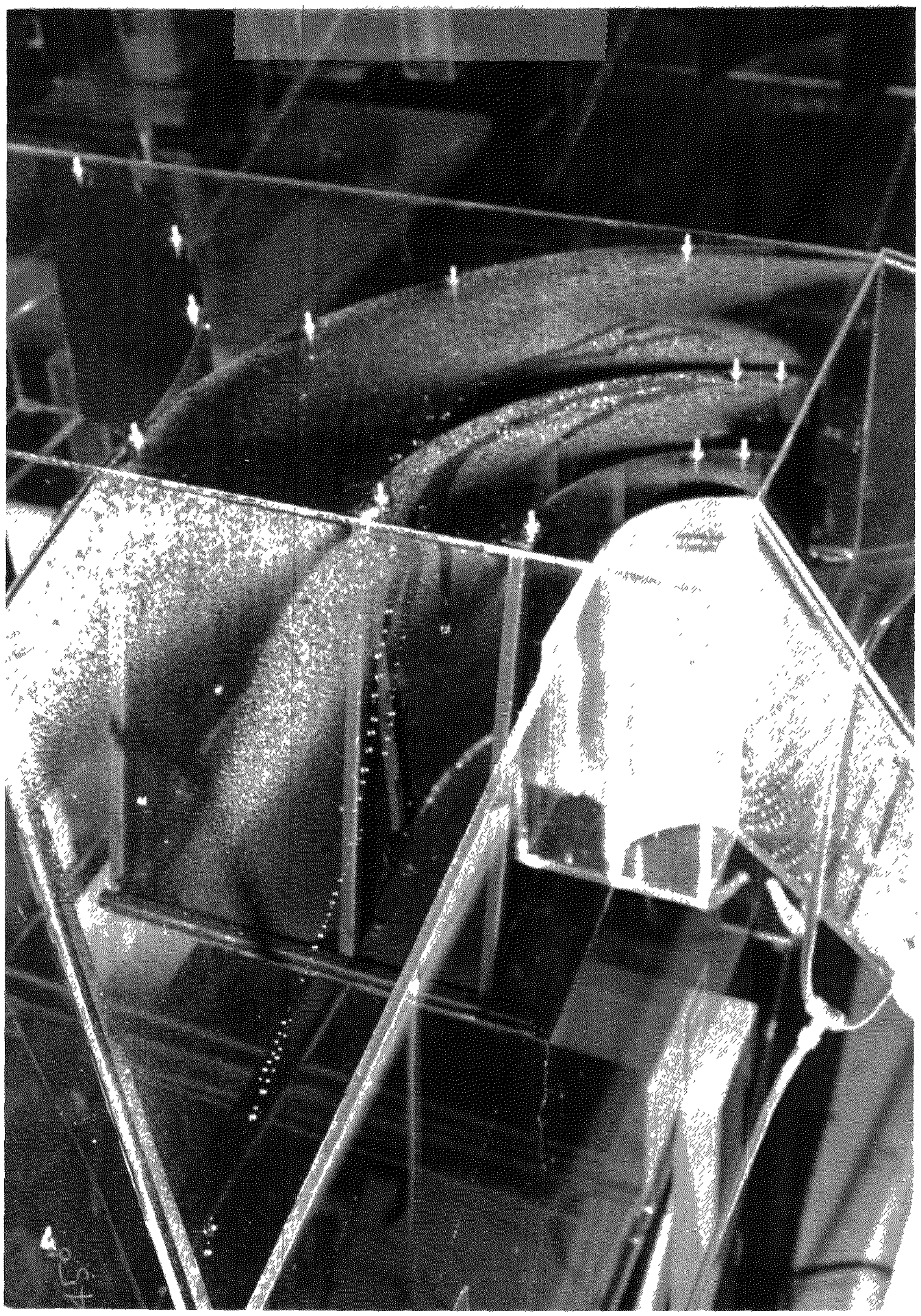
Viewing the C and F absorber outlets from above the model. The turning vane extensions and floor have been installed on the F module. The turning vane extensions are sloped downward and have an angle at the trailing edge to direct liquid to the floor. An angle on the trailing edge of the floor leads to the main outlet duct wall where the liquid may drain down by gravity. The floor also serves to control the gas flow and reduce a swirl that prevents liquid from draining down the side walls of the round horizontal duct downstream of the 60° elbow.

A roof collector was also installed beyond the F outlet to evaluate the ability to direct liquid impinging on the roof over to the sidewall. The collector is situated an angle of approximately 45°.



PHOTOGRAPH #2

A close up of the turning vane extensions on absorber outlet F. The angles at the trailing edges are oversized to account for surface tension effects of water.

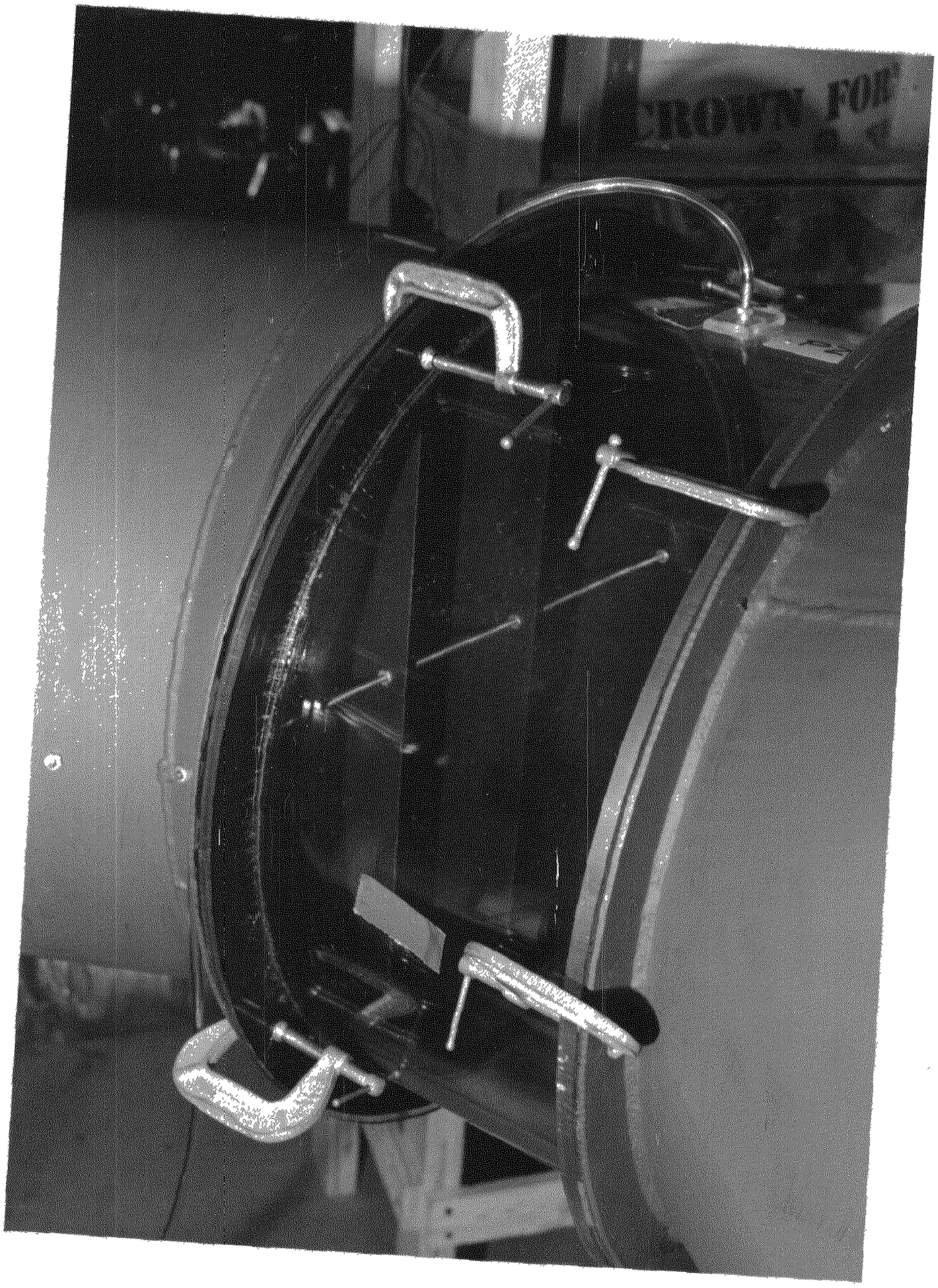


PHOTOGRAPH #3

Viewing the F absorber outlet while a mist of liquid is induced into the model from below the absorber module. It can be seen significant amounts of liquid deposit on the ceiling. This liquid was easily directed to the walls for drainage by the angled ceiling collector. Such a collector will be used if it can be installed inexpensively. Otherwise, we will rely on the turning vanes in the horizontal 60° bend to collect liquid falling from the ceiling at this location.

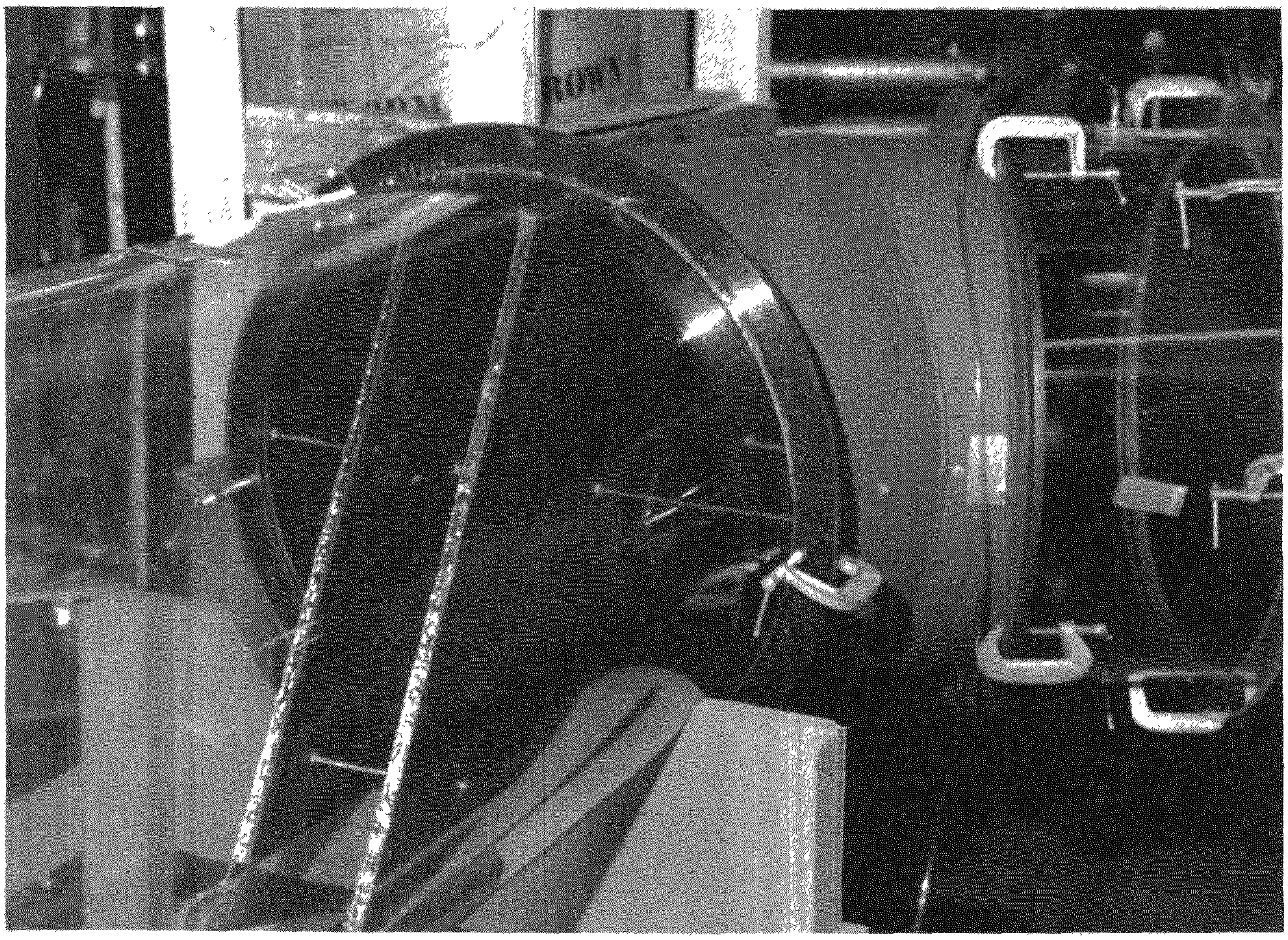
PHOTOGRAPH #4

This close up indicates how effective the absorber outlet modifications are. All large droplets impinge on the turning vanes and are drained to the side wall.



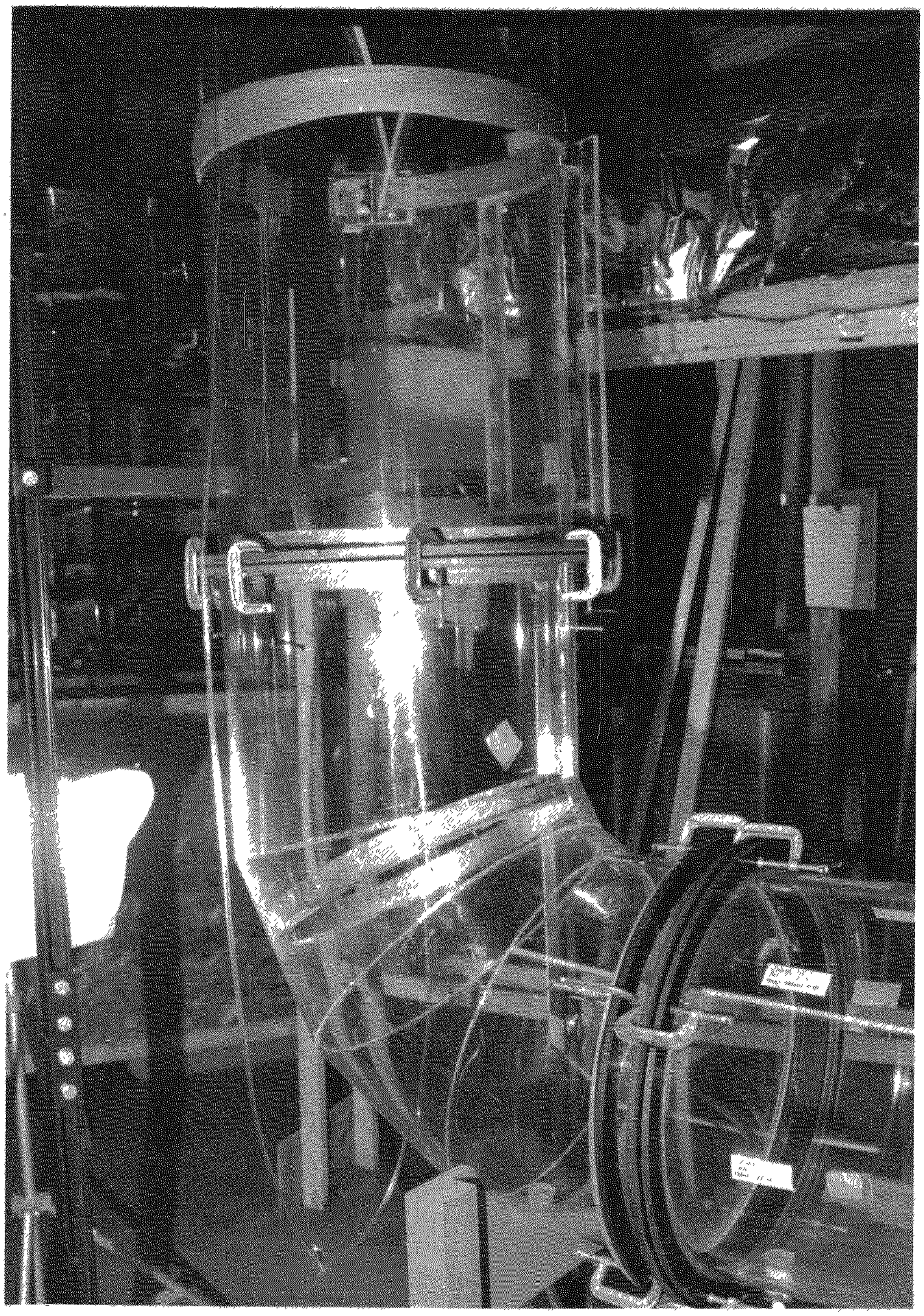
PHOTOGRAPH #5

This is a view of the upstream side of the horizontal 60° bend. Two turning vanes and a stiffener are visible. The turning vanes are constructed of 3 straight sections, joined at angles to follow the curve of the mitered joint.



PHOTOGRAPH #6

This is a view of the downstream side of the horizontal 60° bend. Two turning vanes and three stiffeners are visible. The turning vanes have a downward sloping trailing edge with an angled lip to direct impinging liquid to the duct floor. The vanes proved to be very effective in removing the liquid from the gas path and it traveled downstream along the floor to the existing drain prior to the vertical elbow. A small gas flow deflector plate may be added at the drain to assist improve? drainage.



PHOTOGRAPH #7

Viewing the vertical elbow from the side. Two ring collectors are visible, one in the mitered area and one above the elbow. Although a complete ring collector is shown at the mitered elbow in this shot, the recommended collector will only be a partial ring. It will extend just 100 around the inner diameter of the miter It is used to prevent the flow of liquid down to the sharp edges of the mitered cuts where it can drip into the gas flow.

PHOTOGRAPH #8

A close up of the ring collectors with liquid being introduced into this region. The liquid path is up from the back of the elbow towards the full ring collector and then in towards the inner diameter. Here the liquid travels straight down to the lower ring collector where it will be drained out of the liner on wither side.

GKH

INTERMOUNTAIN POWER SERVICE CORPORATION

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January 14, 1994

Mr. Bruce E. Blowey
Assistant Engineer - Operations & Maintenance
LADWP
111 North Hope Street, Room 1255-C
Los Angeles, CA 90012-2694

Dear Mr. Blowey:

Combustion Gas Reheat Removal Study
Results of Stack Particle Testing

IPSC performed Unit 1 and Unit 2 stack particle tests on December 28 and 29, 1993. These tests were done at LADWP PD&C's request to help determine the quantity and size of water droplets entrained in the stack combustion gases during normal reheat operations. These will later be compared with the quantities and sizes produced after combustion gas reheat tubes are removed.

Testing Results
Results of the tests were as follows:

Unit	Run Time	Droplets	Size
1	15 Seconds	1	20 Microns
1	5 Minutes	39	28 "
2	15 Seconds	3	22 Microns
2	5 Minutes	24	14 "

Tests were run on 3-1/2 inch diameter polished glass plates heated to approximately 140F. The plates were inserted face down, one foot into the gas stream for the time indicated. Droplet size is determined by microscopic review of the glass surface.

Testing Details
Tests were run on December 28, using unheated glass plates with water-indicating grease applied to the exposed side of the glass surface. Water condensed on the plates as soon as they were inserted into the stack, making them completely wet. As a result, no useful droplet data was obtained from these samples.

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